

### REMARKS

Claims 1, 2, 4-18, 20, and 22 were pending. The applicants add new claims 23-24.<sup>1</sup> The applicants present claims 1, 2, 4-18, 20, and 22-24 for examination in view of the following remarks.

Claims 1, 2, 4-18, 20, and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,355,946 ("Ishinaga"), in view of U.S. Pat. No. 6,335,548 ("Roberts"), alone or in further combination with U.S. Pub. No. 2002/0121671 ("Wakisaka"), U.S. Pat. No. 6,707,069 ("Song"), or U.S. Pub. No. 2003/0230751 ("Harada").

The applicants traverse the assertion that

**[Roberts] teaches a housing body comprising ceramic (Fig. 10, 204 and Col 9 Ln 19-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the reflector body 52 of Ishinaga from ceramic as taught by Roberts in order to improve the heat dissipation in the device (Col 9 Ln 19-27).<sup>2</sup>**

This argument lacks the rational underpinning necessary to support the legal conclusion of obviousness.<sup>3</sup> None of the cited references describes a ceramic reflector body coated with a reflector material. In fact, Song specifically teaches that "it is almost impossible to form a desired reflecting surface on the ceramic body" by coating a metal layer onto the inside surfaces of the ceramic body.<sup>4</sup>

The office action asserts

**In the context of a combination with Ishinaga, Robert is relied on to teach a specific material for a reflector body, ceramic; the disclosed high heat conducting property of ceramic would be suited to dissipate radiant heat in the device of Ishinaga regardless of the particular shape.**

**Furthermore, the applicant argues that Roberts does not disclose a ceramic which is coated with a reflector material. This is inaccurate, Roberts discloses that ceramic 204 can be coated (Col 10 Ln 26-30). The cited portion of the Song reference is unpersuasive since**

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<sup>1</sup> New claims 23 and 24 are supported, for example, by paragraph [0016] of the application as published.

<sup>2</sup> Office action dated May 11, 2009, page 3.

<sup>3</sup> See *KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S.Ct. 1727 at 1740 (2007) citing *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" – emphasis added).

<sup>4</sup> See Song, col. 2, lines 48-60.

**Roberts disclose that ceramic may be coated with a reflector, and since Song is not relied on to teach a ceramic coating step.<sup>5</sup>**

The applicants respectfully disagree with the assertion that “Roberts discloses that ceramic 204 can be coated (Col 10 Ln 26-30).”

The text cited reads

**The region 1004 of the heat extraction member 204 within any optical-enhancement cup feature 301 may be coated with silver, aluminum, gold etc. to increase reflectance and improve the optical efficiency of the device.<sup>6</sup>**

However, this is in the context of a thermally conductive body that Roberts explicitly describes as being typically composed of a metal.<sup>7</sup> Potentially, but only potentially, this body may be composed of a thermally conductive ceramic or other material.<sup>8</sup> However, as Roberts only describes the thermally conducting material to be potentially ceramic, Roberts does not disclose a ceramic body which is coated with the metals recited in column 10. Rather, the passage of column 10 refers to the thermally conductive body being a metal body, as the use of a ceramic body is only an option which is not noted as being compatible with such a metal coating. Thus, Roberts does not teach metallizing a ceramic body with the materials recited in the passage of column 10. Rather, as indicated by Song, a person of ordinary skill in the art who was aware of the cited references would not have expected to successfully form a desired reflecting surface on the ceramic body” by coating a metal layer onto the inside surfaces of the ceramic body.

Thus, neither Ishinaga nor Roberts describes a ceramic body coated with a reflector material. Neither Wakisaka, Song, nor Harada has been shown the remedy the deficiencies of the proposed combination of Ishinaga and Roberts. For at least these reasons, the subject matter of the currently pending claims is patentably distinguished over Ishinaga and Roberts.

Furthermore, it should be noted that the heat extraction member 204 of Roberts has a solid bottom on which a chip is placed (see Figure 10, for example). Accordingly, any reflector body which may be disclosed in Roberts has such a solid bottom. However, a reflector body comprising a solid bottom is not suitable to be used as a reflector top preformed separately from a connector body and being disposed on that connector body. Rather, a reflector body formed in

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<sup>5</sup> Office action dated 11/25/2009, page 2.

<sup>6</sup> Roberts, column 10, lines 26-30.

<sup>7</sup> Roberts, column 9, lines 19-24.

<sup>8</sup> Roberts, column 9, lines 19-24.

accordance with Roberts teaching, if it is assumed for the sake of argument that Roberts would disclose a reflector body made of a ceramic which is coated with a reflector material, could not be mounted on Ishinaga's substrate, because there would be no opening in the bottom through which the semiconductor chip which is or is to be mounted on the substrate could be guided. Rather, the bottom of the cavity would prevent the chip from being arranged within a cut-out of the reflector body. It should be noted that Roberts does not disclose a ceramic body having a cavity with an open bottom, said reflector body being coated with a reflector material. Thus, Roberts does not compensate for the shortcoming of the disclosure of Ishinaga in this respect.

Accordingly, the applicants request that the rejection of the previously pending claims under 35 U.S.C. 103 over Ishinaga, in view of Roberts, alone or in further view of Wakisaka, Song, or Harada be withdrawn.

New claims 23 and 24 depend from claim 1 and are patentable for at least the same reasons. The applicants do not concede that claim 13 is a product by process claim but add new claims 23 and 24 to further define associated structural features.

All of the dependent claims are patentable for at least similar reasons as those for the claims on which they depend are patentable.

Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicants have (a) addressed certain comments of the examiner does not mean that the applicants concede other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicants concede any of the examiner's positions with respect to that claim or other claims.

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Respectfully submitted,

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